

Appn No. 09/901,558

Amdt date February 1, 2006

Reply to Office action of December 1, 2005

REMARKS/ARGUMENTS

Claims 59, 66-71, 77, 83-88, and 94-100 are pending.

Claims 59, 66-69, 77, 83-86 and 94-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polley et al. (U.S. 6,618,480) in view of Nabicht et al (U.S. 6,621,346).

Claims 70-71 and 87-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Polley et al and Nabicht et al and further in view of Ouellette (U.S. 4,178,482).

Applicants submit that all of the claims currently pending in this application are patentably distinguishable over the cited references, and reconsideration and allowance of this application are respectfully requested.

Independent claims 59 includes, among other limitations, "an automatic gain control having a single-ended input coupled to the single-ended receive channel, and a single-ended output," "a single-ended first filter coupled to the automatic gain control output," and "a single-ended second filter coupled to the transmit channel for filtering the single-ended output signal before conversion to the differential output signal for transmission on the twisted pair telephone line."

As the Examiner agree, Polley does not disclose the above limitations.

With regard to Nabicht, Applicants respectfully disagree with the statement in the Office action that Nabicht discloses the above limitations.

First, the programmable gain amplifier 54C of Nabicht has two inputs and not a single-ended input. Nabicht is very clear about this. In addition to the depiction of the signal path from the line driver 14 to the ADC 62C as a differential signal (RXP and RXM), Nabicht emphasizes that in "the receive side of AFE 12, line[s] RXP, RXM are received from line driver 14 by programmable gain amplifier 54C." (Col. 8, lines 42-44, emphasis added.). In fact, the above typographical error for "lines" has been corrected in the corresponding U.S. Pat No. 6,226,322, ('322 Patent) disclosing the same FIG. 4 and cited several times by Nabicht. (See, for example, col. 17, lines 18-20 of the '322 patent, which is hereby cited in the enclosed PTO Form 1449).

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Additionally, Nabicht describes that "the input impedance of programmable gain amplifier 54C is adjusted by impedance matching circuit 56 to present a constant input impedance to line driver 14 at lines RXP, RXM, regardless of the selected gain of amplifier 54C." (Col. 8, lines 49-53, emphasis added.). However, FIG. 5 of Nabicht shows As a result, the amplifier 54C has two inputs.

Second, as clearly shown in FIG. 4, the analog filter 58C of Nabicht also has also two inputs and two outputs and therefore is not a single-ended filter, as recited in claim 59.

Third, as shown in FIG. 4, the analog filter 50C of Nabicht also has also two inputs and two outputs and therefore is not a single-ended filter, as recited in claim 59. Nabicht describes that "the filtered digital data is now applied to digital-to-analog converter (DAC) 48C . . . , as described in detail in the above-incorporated copending applications Ser. No. 09/050,620 and Ser. No. 09/050,738. The analog output of DAC 48C is applied to analog low-pass filter 50C." (Col. 8, lines 19-26, emphasis added.).

The U.S. Application Ser. No. 09/050,620 is now issued as U.S. Pat No. 6,226,322, ('322 Patent) disclosing the same FIG. 4 of Nabicht. FIG. 6 of the '322 Patent shows an electrical diagram of the DAC 48C. It is clear from FIG. 6 of the '322 Patent that there are two output lines from the DAC 48C (amplifier 88) going to the analog filter 50C. As a result, the analog filter 50C of Nabicht is not a single-ended filter, as recited in claim 59.

Accordingly, independent claim 59 is patentable over the combination of Polley and Nabicht.

Independent claims 77 and 94 include similar distinguishable limitations. Therefore, independent claims 77 and 94 are also patentable over the combination of Polley and Nabicht.

In short, independent claims 59, 77, and 94 define a novel and unobvious invention over the cited references. Dependent claims 66-71, 83-88, and 95-100 are dependent from claims 59, 77, and 94, respectively and therefore include all the limitations of their respective independent claims and additional limitations therein. Accordingly, these claims are also allowable over the cited references, as being dependent from allowable independent claims and for the additional limitations they include therein.

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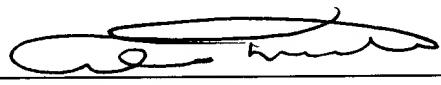
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In view of the foregoing amendments and remarks, it is respectfully submitted that this application is now in condition for allowance, and accordingly, reconsideration and allowance are respectfully requested.

Respectfully submitted,

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